New Soil Gas Flux Survey Solutions

Quickly and comfortably assess the spatial variability of a broader range of gas species with expanded analyzer capabilities.
**New Smart Chamber**

The latest advancement in soil gas flux technology from LI-COR: The Smart Chamber is a portable, self-powered, GPS and Wi-Fi* enabled survey chamber capable of real-time flux processing, soil moisture and temperature ancillary data collection, and complete self-control of gas flow to a wide range of analyzer options.

**Built Upon a Legacy of Scientific Advancements**

Expand your soil gas flux measurement capabilities with the same patented technology unique to LI-COR chambers, including patented pressure vent, chamber air mixing and bowl design, and an automated bellows mechanism that minimizes pressure changes that may impact fluxes.

**Powerful and Versatile Software**

Capture and store fully-calculated flux and other data in real time, program measurements in the field, and monitor your system onsite using embedded Wi-Fi.

**Expanded Gas Analyzer Compatibility**

Assess the spatial variability of a broader range of gas species quickly and comfortably with flexible new analyzer capabilities, including methane fluxes with LI-7810 CH₄/CO₂/H₂O Analyzer.
New LI-870 CO₂/H₂O Analyzer

The LI-870 is housed in a dust- and splash-resistant case. Temperature-controlled optics provide precise measurements in a variety of environmental conditions.

Simple Configuration

No user assembly is required to operate the LI-870. Simply attach the pre-made cable assembly with convenient quick-connect fittings to the Smart Chamber and get measuring. Power is supplied directly from the chamber with up to 20 hours of use (for a typical use case, using 2 batteries supplied with the Smart Chamber).

Rugged Case

The LI-870 is dust- and splash-resistant and temperature-controlled optics provide precise measurements in a variety of environmental conditions.

Smart Chamber Advantages

With the new Smart Chamber, you can view your LI-870 measurement and diagnostic data in real time from your computer or mobile device and quickly get data formatted for visualization and analysis with SoilFluxPro™ Software.
Specifications

Smart Chamber (8200-01S)

- **Bowl diameter:** 20 cm
- **Chamber volume:** 4244.1 cm³
- **Soil area:** 317.8 cm² (49.3 inches²)
- **Air temperature thermistor:**
  - Operating range: -20 to 70 °C
  - Accuracy: ± 0.5 °C over 0 °C to 70 °C
- **Barometric pressure sensor:**
  - Operating range: 50 - 110 kPa
  - Accuracy: +/- 0.4 kPa
  - Resolution: 1.5 Pa (typical)
- **Operating temperature range:** -20 to 50 °C
- **Battery life:** 20 hours (10 hours per battery, 2 batteries, when powering LI-870 for a typical use case).
- **Weight:** 4.3 kg (9.6 lbs, including battery)
- **Memory:** 8 GB total non-volatile (includes operating system and user data files)

LI-870 CO₂/H₂O Analyzer

- **Case dimensions:** 28.4 cm L × 27.9 cm W × 12.4 cm H (11.2 in × 11 in × 4.9 in)
- **Weight:** 2.31 kg (5.1 lbs.)
- **Measurement rate:** 1 measurement per second (1 Hz)
- **Operating temperature range:** -20 to 45 °C, without solar loading
- **Relative humidity range:** 0 to 95% RH, non-condensing
- **Operating pressure range:** 50 to 110 kPa
- **Flow rate (nominal):** 0.75 liters min⁻¹
- **GPS accuracy:** 2.5 m CEP
- **Wi-Fi:** 2.4 GHz, 801.11g*  
  *not available in all countries
- **Connectivity ports:**
  - USB-A: sealed and strain-relieved, for connection to LI-870 CO₂/H₂O Analyzer.
  - RJ-45 Ethernet: Sealed and strain-relieved, for connection to LI-COR Trace Gas Analyzers.
  - USB-B: Sealed and strain-relieved, for connection to non-LI-COR gas analyzers
  - USB-A: standard, for connection to external Wi-Fi adapter.
  - SDI-12 interface (Stevens HydraProbe included).
  - Type-E thermocouple adapter port.

**Power requirements:**
- After warmup (without pump):
  - 0.33 A @ 12 VDC (4.0 W) average
- After warmup (with pump):
  - 0.42A @ 12 VDC (5.0W) average

**CO₂ Measurements:**
- **Measurement range:** 0 to 20,000 ppm
- **Accuracy:** Within 1.5% of reading

**H₂O Measurements:**
- **Measurement range:** 0 to 60 mmol mol⁻¹
- **Accuracy:** Better than 1.5% of reading